



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.                | CONFIRMATION NO. |
|--|-------------|----------------------|------------------------------------|------------------|
| 09/916,782   | 07/27/2001  | T. Gavin Smith       | 16356.643 (DC-02990)               | 8795             |
| 27683  | 7590        | 10/21/2004           |                                    |                  |
| HAYNES AND BOONE, LLP<br>901 MAIN STREET, SUITE 3100<br>DALLAS, TX 75202 |             |                      | EXAMINER<br>MASKULINSKI, MICHAEL C |                  |
|  |             |                      | ART UNIT                           | PAPER NUMBER     |

2113

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/916,782

Applicant(s)

SMITH ET AL.

Examiner

Michael C Maskulinski

Art Unit

2113

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**Final Office Action**

***Claim Rejections - 35 USC § 112***

1. In view of the recent amendment, the rejection of claim 10 under the second paragraph of 35 U.S.C. 112 has been withdrawn.

***Claim Rejections - 35 USC § 102***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 6, and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Chew, U.S. Patent 6,389,560 B1.

Referring to claim 1:

a. In Figure 1 and in column 4, lines 1-5, Chew discloses the use of hubs on the USB that enables users to expand the number of devices which can be connected to the computer system (setting a plurality of switching devices to cause a first plurality of devices to be coupled to a computer system).

b. In column 7, lines 18-37, Chew discloses a USBAI module that controls the testing of all the endpoints of a USB device (a control module coupled to the plurality of switching devices and to an additional switching device).

c. Booting the computer system is inherent to the system of Chew.

d. In column 7, lines 18-19, Chew discloses that the test application runs a suite of tests to verify all of the USBAI function calls (detecting one or more errors associated with one or more of the first plurality of devices).

Referring to claim 6, in column 4, lines 36-38, Chew discloses that some USB devices server as both functional devices and hubs to which other devices can be attached (setting the additional switching device to cause one of a second plurality of devices to be coupled to one of the first plurality of devices).

Referring to claim 7, in column 4, lines 36-38, Chew discloses that some USB devices server as both functional devices and hubs to which other devices can be attached (setting a splitter device to cause a second plurality of devices to be coupled to the first plurality of devices).

4. Claims 1, 4, 5, and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Vrhel, Jr. et al., U.S. Patent 6,543,047 B1.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Referring to claim 1:

- a. In column 6, lines 52-58, Vrhel, Jr. et al. disclose that after hardware assembly, the target system is put into a burn rack (setting a plurality of switching devices to cause a first plurality of devices to be coupled to a computer system).
- b. In column 6, lines 52-67, Vrhel, Jr. et al. disclose that in the burn rack the hardware is tested and a fully integrated system test is carried out (a control

Art Unit: 2113

module coupled to the plurality of switching devices and to an additional switching device).

c. Booting the computer system is inherent to the system of Vrhel, Jr. et al.

d. In column 7, lines 62-67 continued in column 8, lines 1-7, Vrhel, Jr. et al. disclose that the outputs of HardTack are queried to determine whether or not any errors were detected (detecting one or more errors associated with one or more of the first plurality of devices).

Referring to claim 4, in column 10, lines 54-55, Vrhel, Jr. et al. disclose that errors will be logged if there are errors to report (storing the one or more errors into a log file on the computer system).

Referring to claim 5, in column 11, lines 64-67 continued in column 12, lines 1-3, Vrhel, Jr. et al. disclose that the device logs, including their respective failures, are copied into the standard factory failure logging mechanism (storing the one or more errors onto a storage device located remotely from the computer system).

Referring to claim 8, in column 10, lines 54-55, Vrhel, Jr. et al. disclose that errors will be logged if there are errors to report (subsequent to booting the computer system, performing one or more tests on the computer system using the first plurality of devices; and storing results associated with the one or more tests into a log file).

***Claim Rejections - 35 USC § 103***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Art Unit: 2113

6. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vrhel, Jr. et al., U.S. Patent 6,543,047 B1, and further in view of Jessen et al., U.S. Patent 5,410,681.

Referring to claim 2, in column 8, lines 59-61, Vrhel, Jr. et al. disclose that the FIST checks the customer's computer system to verify that the combination of hardware and software originally ordered by the customer is recognized and properly set up by the OS. However, Vrhel, Jr. et al. don't explicitly disclose subsequent to detecting the one or more errors, setting the plurality of switching devices to cause a second plurality of devices to be coupled to the computer system, the second plurality of devices including at least one device that is not included in the first plurality of devices. In column 2, lines 34-38, Jessen et al. disclose a means for testing a computer system repetitively such that any errors in a variety of computer hardware/software combinations may be reproduced and thus more easily eliminated. It would have been obvious to one of ordinary skill at the time of the invention to include the testing of a variety of hardware/software combinations of Jessen et al. into the system of Vrhel, Jr. et al. A person of ordinary skill in the art would have been motivated to make the modification because testing each combination ensures proper compatibility (see Jessen et al.: column 1, lines 18-22).

Referring to claim 3, in column 8, lines 22-37, Vrhel, Jr. et al. disclose that at the end of the software download/install phase, the computer system is rebooted, wherein the computer system enters an OS setup (subsequent to setting the plurality of switching devices to cause the second plurality of devices to be coupled to the

Art Unit: 2113

computer system: rebooting the computer system; and detecting one or more errors associated with one or more of the second plurality of devices).

7. Claims 9-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vrhel, Jr. et al., U.S. Patent 6,543,047 B1, and further in view of Chew, U.S. Patent 6,389,560 B1.

Referring to claims 9 and 17:

a. In column 5, lines 18-19, Vrhel, Jr. et al. disclose that the assembled hardware is tested using software tools and utilities (a computer program product).

b. In column 6, lines 52-58, Vrhel, Jr. et al. disclose that after hardware assembly, the target system is put into a burn rack to test the hardware.

However, Vrhel, Jr. et al. don't explicitly disclose the type of hardware being tested nor setting a first switching device to cause a first one of a first plurality of devices to be coupled to a computer system; setting a second switching device to cause a first one of a second plurality of devices to be coupled to the computer system. In Figure 1, and in column 4, lines 1-5, Chew discloses the use of hubs on the USB to enable users to expand the number of devices which can be connected to the computer system. It would have been obvious to one of ordinary skill at the time of the invention to include the USB system of Chew into the system of Vrhel, Jr. et al. A person of ordinary skill in the art would have been motivated to make the modification because USB is commonplace amongst computer systems and is just another hardware device in the computer system

(see Chew: column 1, lines 52-67 and column 3, lines 41-62) and there is a need to test USB devices (see Chew: column 2, lines 28-37).

c. In column 7, lines 18-37, Chew discloses a USBAI module that controls the testing of all the endpoints of a USB device (coupling a control module to the first and second switching devices and to an additional switching device).

d. Booting the computer system is inherent to the systems of Chew and Vrhel, Jr. et al.

e. In column 4, lines 44-57, Chew discloses that the physical aspects of the USB interconnect are defined by the bus topology (detecting the first one of the first plurality of devices using the computer system; and detecting the first one of the second plurality of devices using the computer system).

Referring to claims 10 and 18, in column 7, lines 18-37, Chew discloses that the test application may spawn multiple threads to allow concurrent testing of the different endpoints (subsequent to detecting the first one of the first plurality of devices and the first one of the second plurality of devices, setting the first switching device to cause a second one of the first plurality of devices to be coupled to the computer system).

Referring to claims 11 and 19, in column 8, lines 22-37, Vrhel, Jr. et al. disclose that at the end of the software download/install phase, the computer system is rebooted, wherein the computer system enters an OS setup. The computer system runs completely through the OS setup automatically and then reboots to the OS desktop. Upon reaching the desktop, the OS runs a prescribed software program, referred to herein as HardTack, that checks the computer system for any errors found during the



Art Unit: 2113

OS setup (subsequent to setting the first switching device to cause the second one of the first plurality of devices to be coupled to the computer system; rebooting the computer system; and detecting the second one of the first plurality of devices using the computer system).

Referring to claims 12 and 20, in column 10, lines 54-55, Vrhel, Jr. et al. disclose that errors will be logged if there are errors to report (detecting an error associated with detecting the first one of the first plurality of devices; and storing the error into a log file on the computer system).

Referring to claims 13 and 21, in column 11, lines 64-67 continued in column 12, lines 1-3, Vrhel, Jr. et al. disclose that the device logs, including their respective failures, are copied into the standard factory failure logging mechanism (detecting an error associated with detecting the first one of the first plurality of devices; and storing the error into a log file on a storage device located remotely from the computer system).

Referring to claims 14 and 22, in Figure 1 and in column 4, lines 37-39, Chew discloses that some USB devices serve as both functional devices and hubs to which other devices can be attached (setting the additional switching device to cause one of a third plurality of devices to be coupled to the first one of the first plurality of devices).

Referring to claims 15 and 23, in Figure 1 and in column 4, lines 37-39, Chew discloses that some USB devices serve as both functional devices and hubs to which other devices can be attached (setting a splitter device to cause a third plurality of devices to be coupled to the first plurality of devices).

Referring to claims 16 and 24, in column 7, lines 18-37, Chew discloses that the test application may spawn multiple threads to allow concurrent testing of the different endpoints (subsequent to detecting the first one of the first plurality of devices and the first one of the second plurality of devices, performing one or more tests on the computer system using the first one of the first plurality of devices and the first one of the second plurality of devices). Further, in column 10, lines 54-55, Vrhel, Jr. et al. disclose that errors will be logged if there are errors to report (storing results associated with the one or more tests into a log file).

Referring to claim 25:

a. In column 6, lines 52-58, Vrhel, Jr. et al. disclose that after hardware assembly, the target system is put into a burn rack to test the hardware. However, Vrhel, Jr. et al. don't explicitly disclose the type of hardware being tested nor a computer system that includes a first connection and a second connection; a first switching device coupled to the first connection; a first plurality of devices coupled to the first switching device; a second switching device coupled to the second connection; a second plurality of devices coupled to the second switching device; setting a first switching device to cause a first one of a first plurality of devices to be coupled to a computer system; setting a second switching device to cause a first one of a second plurality of devices to be coupled to the computer system. In Figure 1, Chew teaches a first connection and a second connection; a first switching device coupled to the first connection; a first plurality of devices coupled to the first switching device; a second switching

device coupled to the second connection; a second plurality of devices coupled to the second switching device, and in column 4, lines 1-5, Chew discloses the use of hubs on the USB to enable users to expand the number of devices which can be connected to the computer system. It would have been obvious to one of ordinary skill at the time of the invention to include the USB system of Chew into the system of Vrhel, Jr. et al. A person of ordinary skill in the art would have been motivated to make the modification because USB is commonplace amongst computer systems and is just another hardware device in the computer system (see Chew: column 1, lines 52-67 and column 3, lines 41-62) and there is a need to test USB devices (see Chew: column 2, lines 28-37).

b. Booting the computer system is inherent to the systems of Chew and Vrhel, Jr. et al.

c. In column 7, lines 18-37, Chew discloses a USBAI module that controls the testing of all the endpoints of a USB device (a control module coupled to the first and second switching devices and to an additional switching device).

d. In column 4, lines 44-57, Chew discloses that the physical aspects of the USB interconnect are defined by the bus topology (detecting the first one of the first plurality of devices using the computer system; and detecting the first one of the second plurality of devices using the computer system).

Referring to claim 26, in Figure 1, Chew teaches a control module configured to cause the first switching device to be set to cause the first one of the first plurality of devices to be coupled to the computer system, and the control module configured to

Art Unit: 2113

cause the second switching device to be set to cause the first one of the second plurality of devices to be coupled to the computer system.

Referring to claims 27, 28, and 29, in Figure 1, and in column 3, lines 63-67 continued in column 4, line 1, Chew discloses a computer system connected to several peripheral devices which are connected to the USB port on the computer system via hubs (wherein the control module includes at least one hardware component, one software component, and the computer system includes the control module).

Referring to claim 30, in column 2, lines 46-50, Chew discloses that the use of the command line interpreter allows the user to enter commands remotely, e.g., via a modem connected to the computer system (the control module is located externally from the computer system).

Referring to claim 31, in column 8, lines 22-37, Vrhel, Jr. et al. disclose that at the end of the software download/install phase, the computer system is rebooted, wherein the computer system enters an OS setup. The computer system runs completely through the OS setup automatically and then reboots to the OS desktop. Upon reaching the desktop, the OS runs a prescribed software program, referred to herein as HardTack, that checks the computer system for any errors found during the OS setup (the control module is configured to cause the computer system to boot subsequent to causing the first switching device to be set and causing the second switching device to be set).

Referring to claim 32, in Figure 1, Chew discloses causing the first and second switching devices to cause a second one of the plurality of devices to be coupled to the

Art Unit: 2113

computer system, and in column 7, lines 18-37, Chew that the test application may spawn multiple threads to allow concurrent testing of the different endpoints (the control module is configured to cause the first switching device to be set to cause a second one of the first plurality of devices to be coupled to the computer system, and wherein the control module is configured to cause the second switching device to be set to cause a second one of the second plurality of devices to be coupled to the computer system).

Referring to claim 33, in column 8, lines 22-37, Vrhel, Jr. et al. disclose that at the end of the software download/install phase, the computer system is rebooted, wherein the computer system enters an OS setup. The computer system runs completely through the OS setup automatically and then reboots to the OS desktop. Upon reaching the desktop, the OS runs a prescribed software program, referred to herein as HardTack, that checks the computer system for any errors found during the OS setup (the control module is configured to cause the computer system to be rebooted subsequent to causing the first switching device to be set to cause the second one of the first plurality of devices to be coupled to the computer system).

Referring to claim 34, in Figure 1 and in column 4, lines 37-39, Chew teaches the additional switching device coupled to the first plurality of devices; and a third plurality of devices coupled to the additional switching device; the additional switching device able to be set to cause one of the third plurality of devices to be coupled to the first one of the first plurality of devices.

Referring to claim 35, in Figure 1 and in column 4, lines 37-39, Chew teaches a third switching device coupled to the first plurality of devices; and a third plurality of

Art Unit: 2113

devices coupled to the third switching device; the third switching device able to be set to cause one of the third plurality of devices to be coupled to the first one of the first plurality of devices.

***Response to Arguments***

8. Applicant's arguments filed August 16, 2004 have been fully considered but they are not persuasive.

9. On page 13, under the section REMARKS, the Applicant argues that the control module coupled to the plurality of switching devices and to an additional device, as claimed is not shown or taught in Chew. The Examiner respectfully disagrees. In column 7, lines 18-37, Chew teaches a control module coupled to the plurality of switching devices and to an additional switching device. Further, the Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

10. On page 13, under the section REMARKS, the Applicant argues that the control module coupled to the plurality of switching devices and to an additional device, as claimed is not shown or taught in Vrhel, Jr. et al. The Examiner respectfully disagrees. In column 6, lines 52-67, Vrhel, Jr. et al. disclose that in the burn rack the hardware is tested and a fully integrated system test is carried out. Further, the Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of

Art Unit: 2113

the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

11. On pages 14-16, under the section REMARKS, the Applicant argues against the rejection under 35 U.S.C. 103. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). The Examiner would like to point out that the Applicant's arguments fail to comply with 37 CFR 1.111(b) because they fail to show how the combination of references are non-obvious. A mere statement that the references are non-combinable is not sufficient.

***Conclusion***

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C Maskulinski whose telephone number is (571) 272-3649. The examiner can normally be reached on Monday-Friday 9:30-6:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



Art Unit: 2113

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MM

  
ROBERT BEAUSOLIEL  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100